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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Arnab Das

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CAPITOL PATENT & TRADEMARK LAW FIRM, PLLC

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VIENNA, VA 22183

EXAMINER

AGHDAM, FRESHTEH N

ART UNIT

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2611

MAIL DATE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/991,111	Applicant(s) DAS ET AL.	
	Examiner FRESHTEH N. AGHDAM	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1 and 3-14 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 3, line 6, it is unclear as what the phrase "in the control channel" is referring to.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-9, and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the instant application's disclosed prior art, and further in view of Mortensen (EP 1 067 730 A1).

As to claims 1, 4-6, 13-14, the instant application's disclosed prior art teaches a method of and/or an apparatus for processing control information in a wireless communication system via a shared control channel that includes encoded signaling information for a corresponding data transmission in another channel comprising: in the shared control channel, decoding all of the encoded signaling information; and deriving transmission format information from the decoded signaling information for the corresponding data transmission (pg. 1, lines 16-35; pg. 2, lines 1-9). The instant application's disclosed prior art is not explicit about separately decoding a portion of the encoded signaling information; and deriving transmission format information from the separately decoded portion of the encoded signaling information for the corresponding data transmission format before a remainder of the encoded signaling information is decoded. Mortensen teaches separately encoding/decoding a portion of the encoded signaling information (the TFCI information transmitted via a dedicated control channel, wherein the "TFCI" includes the "TFRI" or the "TFCI" may be referred to as the "TFRI"see conclusion for support) and deriving transmission format information from the separately decoded portion of the encoded signaling information for the corresponding data transmission before a remainder of the encoded signaling information is decoded in order to reduce processing time by dividing the signaling information into pieces and encoding/decoding the pieces separately (abstract; par. 14 and 18; claim 1). Therefore, it would have been obvious to one of ordinary skill in the art to modify the teaching of the instant application's disclosed prior art using the teaching of Mortensen and to instead divide the signaling information in the shared control channel into different

pieces and separately decoding the portion(s) of the signaling information for the corresponding data transmission before a remainder of the encoded signaling information is decoded for the reason stated above.

As to claim 3, the instant application's disclosed prior art teaches, at one of mobile stations, receiving information in the dedicated control channel corresponding to that mobile station indicating to that mobile station that the encoded signaling information in the control channel is associated with a data transmission for that mobile station (pg. 1, lines 16-35; pg. 2, lines 1-9).

As to claim 7, Mortensen further teaches that separately decoding a portion of the encoded signaling information is performed prior to the start of a transmission time interval corresponding to the data transmission (par. 14).

As to claim 8, the instant application's disclosed prior art teaches that either block coding or convolutional coding can be used in the UMTS standards, wherein a single set of tail bits are added to the encoded signaling information (pg. 1, lines 16-35; pg. 2, lines 1-9).

As to claim 9, the instant application's disclosed prior art teaches that either block coding or convolutional coding can be used in the UMTS standards, wherein a single set of tail bits are added to the encoded signaling information (pg. 1, lines 16-35; pg. 2, lines 1-9). Mortensen teaches separately encoding the signaling information by dividing the signaling information into at least two parts and encoding the separated portion (part 1) with higher redundancy comparing to the rest of the signaling information (part 2). Therefore, it would have been obvious to one of ordinary skill in the art to add a number

Art Unit: 2611

of tail bits to part 1 and some other number of tail bits to part 2 to obtain the desired degree of redundancy.

Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the instant application's disclosed prior art and Mortensen, further in view of White et al (US 6,311,306).

As to claim 10, one of ordinary skill in the art would recognize that puncturing selected bits (rate matching) is performed when using the convolutional coding in order to the data rate of the channel.

As to claims 11-12, the instant application's disclosed prior art teaches a method of and/or an apparatus for processing control information in a wireless communication system via a shared control channel that includes encoded signaling information for a corresponding data transmission in another channel comprising: in the shared control channel, decoding all of the encoded signaling information; and deriving transmission format information from the decoded signaling information for the corresponding data transmission (pg. 1, lines 16-35; pg. 2, lines 1-9). The instant application's disclosed prior art is not explicit about separately decoding a portion of the encoded signaling information; and deriving transmission format information from the separately decoded portion of the encoded signaling information for the corresponding data transmission format before a remainder of the encoded signaling information is decoded. Mortensen teaches separately encoding/decoding a portion of the encoded signaling information with a higher degree of redundancy (the TFCI information transmitted via a dedicated

Art Unit: 2611

control channel, wherein the "TFCI" includes the "TFRI" or the "TFCI" may be referred to as the "TFRI" (see conclusion for support) and deriving transmission format information from the separately decoded portion of the encoded signaling information for the corresponding data transmission before a remainder of the encoded signaling information is decoded in order to reduce processing time by dividing the signaling information into pieces and encoding/decoding the pieces separately (abstract; par. 14 and 18; claim 1). Therefore, it would have been obvious to one of ordinary skill in the art to modify the teaching of the instant application's disclosed prior art using the teaching of Mortensen and to instead divide the signaling information in the shared control channel into different pieces and separately decoding the portion(s) of the signaling information for the corresponding data transmission before a remainder of the encoded signaling information is decoded for the reason stated above. The instant application's disclosed prior art and Mortensen do not expressly teach puncturing of bits from the portion of the encoded signaling information that is separately decoded is less than the puncturing of bits from the remaining encoded signaling information. White teaches that the portion of the information bits (units) that has a higher redundancy is punctured less than the remaining information bits. Therefore, it would have been obvious to one of ordinary skill in the art to puncture one or more subset of the information signal less than some other subsets in order to reduce the probability of bit error (e.g. higher redundancy).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wkabayashi (US 2006/0176866) see paragraph 56.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRESHTEH N. AGHDAM whose telephone number is (571)272-6037. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

F.A.

Application/Control Number: 09/991,111
Art Unit: 2611

Page 8

/Chieh M Fan/

Supervisory Patent Examiner, Art Unit 2611